

in a cheap and handy shape. The work has been wisely placed in the hands of those who have themselves been pioneers in the task of discovery, and the reader has thus been secured against the errors and unfounded conclusions almost inseparable from second-hand information. The histories of Egypt, Assyria, and Persia, have now been followed up by those of Babylonia and Asia Minor, and the fact that the history of Babylonia was the last literary work which Mr. George Smith, the indefatigable Assyrian explorer, lived to accomplish, gives a melancholy interest to it over and above that of its subject matter. Indeed, the materials for reconstructing Babylonian history are still but scanty, and must remain so until systematic excavations can be made among the buried cities and libraries of ancient Chaldea. With the exception of a few early bricks and a few dedicatory inscriptions of Nebuchadnezzar and his successors, it is from the clay tablets of Nineveh that almost all our knowledge of the sister kingdom has been derived. Even Babylonian chronology is still in an uncertain and tentative condition, and the fragments of the Babylonian historian, Berosus, help us but little. Whole periods must still be left blank, and though one or two dates, like the conquest of the Elamite king, Cudur-nankhundi, in B.C. 2280, can be fixed by the aid of later monuments, the relative position of even whole dynasties has not yet been settled. Our acquaintance with the mythical epoch is quite as great as with the historical epoch; the Assyrians preferred the legends of the rival monarchy to a record of its glories, and while, therefore, we now have in detail the stories of the creation, of the flood, or of the hero Izdubar, we know comparatively little of the political changes which passed over the Babylonia of history. Compared, however, with what we knew of them a few years back, even this limited knowledge seems large and accurate, and the best evidence of this is the volume which Mr. Smith has written, and which would have been an impossibility but a short time ago. Those who wish to learn what light has been thrown by cuneiform discovery on this important section of ancient history cannot do better than refer to his book. The importance of Babylonia for the history of culture and civilisation is daily becoming more manifest; the early Accadian population of the country, who spoke an agglutinative language and invented writing, left a rich inheritance of art, science, mythology, and religious ideas to their Semitic successors, and through them to the Jews and Greeks. The latter were influenced partly through the Phœnicians, partly through the nations of Asia Minor. Mr. Vaux's volume on the Greek cities of Asia Minor is therefore a suitable companion to Mr. Smith's "History of Babylonia." His difficulty in compiling it must have been the converse of Mr. Smith's, as here it was not the meagreness but the superabundance of materials which was likely to cause embarrassment. His selection, however, is good and judicious, and the book he has produced is at once instructive and readable. He has not forgotten to invoke the assistance of the latest discoveries; the first few pages are devoted to an account of Dr. Schliemann's life and discoveries, and the researches of Newton, Wood, and Fellows, have been largely drawn upon. Considering the space at his command, Mr. Vaux must be congratulated upon the amount he has been able to

cram into it, and, so far as we can see, no city or fact of importance has been omitted. Both volumes are appropriately illustrated, and the "History of Babylonia" contains a copy of a bronze image of an ancient Chaldean monarch recently brought to the British Museum, and interesting on account of the rarity of such early monuments. Their value is further increased by the addition of indices, and the editor of Mr. Smith's volume has added a chronological table of the Babylonian kings, and an explanatory list of proper names.

FRENCH POPULAR SCIENCE

- Musée Entomologique Illustré. Les Papillons: Organisation, Chasse, Classification.* 80 Plates and 260 Woodcuts. *Les Coléoptères: Organisation, Mœurs, Chasse, Collections, Classification.* 48 Plates and 335 Woodcuts. *Anatomie et Physiologie de l'Abeille.* Par Michael Girdwoyn. 12 Lithographic Plates.
- Les Champignons.* Par F. S. Cordier. 60 Chromolithographs and 8 Woodcuts.
- Les Prairies Artificielles.* Par Ed. Viaune. 127 Woodcuts.
- Les Ravageurs des Forêts et des Arbres d'Alignement.* Par H. De la Blanchère. 162 Woodcuts.
- Les Ravageurs des Vergers et des Vignes; avec une Étude sur le Phylloxera.* Par H. De la Blanchère. 160 Woodcuts.
- Le Chalumeau. Analyses Qualitatives et Quantitatives. Guide Pratique.* Traduction libre du Traité de B. Kerl. Par E. Jannettaz.
- Les Aliments. Détermination Pratique de leurs Falsifications.* Par A. Vogl. Traduction par Ad. Focillon. 160 Woodcuts. (All published by J. Rothschild, Rue des Saints-Pères, Paris.)

WE have received the preceding batch of works from the house of Rothschild of Paris. This is not the first time we have been able to show not only how worthily M. Rothschild is maintaining his position as one of the first publishers of popular science works of the time, but how eagerly such works are read, and how highly they are appreciated in France. It is impossible to speak too highly of the honest work which has been put into each of the volumes, while many of them are written by men whose names are widely known on this side the Channel. As is proper in this style of literature, the text is equalled by the illustrations. Why is it that in the matter of illustrated books such as those before us, the French finished product is so far superior to nine-tenths of those published on this side the water? Nothing can exceed the perfection of many of the hundreds of woodcuts in the above volumes, while we have rarely seen more finished specimens of chromolithography than those to be found in some of the volumes.

We cannot think that the French public is so far beyond our own in its appreciation of science, as to make the publication of similar works in our own country hopeless. We shall therefore give an analysis of each of the above works in a single article, with a view of showing the treatment adopted abroad in popularising the branches of science with which the volumes deal, instead of devoting

one to each of them in turn, which we should have been quite justified in doing, having regard to their value.

Of the two volumes on the Natural History of Insects, which are published by a society of French and foreign entomologists, vol. i. is devoted to the Coleoptera, and comprises their organisation and their different orders, with a short description of each, and woodcuts showing their different stages of development. These are followed by other useful matter, and then, in the second part, we come to "Le Monde des Scarabées." The stag-beetle is here taken as an example of his family to show the anatomy of these insects. The description of their dwellings and instincts is clear, and written in such a style that it may be understood and enjoyed by those not versed in entomology. This part occupies a good portion of the book. In the pages devoted to the hunting, preparing, and keeping of beetles, beginners may find every information they require; pincers, pins, and nets are all shown, as well as the necessary requisites for the knapsack. A list of the principal entomological works is given, after which we have a lengthy classification and iconography of European coleoptera, illustrated with forty-eight plates beautifully coloured by hand.

The arrangement of volume ii., on Butterflies, is very similar to the above, and contains thirty coloured plates illustrating the butterfly, caterpillar, and chrysalis, together with the plants on which these are most frequently to be found.

"The Anatomy and Physiology of the Bee," is taken from volume vi. of the "Memorials of the Polish Society of Exact Sciences in Paris," and translated into French by M. Pillain. This work consists of twelve lithographic plates which obtained medals of merit both at the Universal Exhibition at Vienna and from the Royal and Imperial Society of Agriculture of Cracow. On these plates we have 172 figures of the various parts of a bee, greatly magnified. It is scarcely necessary to add that these are extremely well finished. In the folio we have the memoir itself, a book of forty pages, which first introduces us to the bees of different countries and the bibliography of the subject. In chapter i. the author describes the exterior parts of the bee, and in the second and third the interior and more complicated, such as the muscles, nervous system, circulation of the blood, &c. The work terminates with explanations of the figures. Altogether this is a valuable addition to an entomologist's library, and does great credit to the society from which it has emanated.

In M. Cordier's book on Fungi we have much valuable information. In the first place he treats generally of the organisation of fungi, their physiology, mode of reproduction, and geography, how to distinguish the edible from the poisonous, and he shows us how to extract this poison; he tells how this works on the animal economy and the best means of counteracting it. In the second part all the fungi useful to man are chronicled, with detailed descriptions of each order and drawings from nature.

M. Cordier has adopted Persoon's classification in preference to any other, as he takes it to be more practical; indeed he dedicates the book to his memory as the "Créateur de la Science Mycologique." The drawing and colours of the sixty chromolithographs are well worthy of note. The book also contains a glossary,

table of common, and one of the scientific, names of the fungi.

The author has evidently endeavoured to make his subject as interesting and complete as possible. The style of the popular portion of the book is admirable, and *bon vivants* will be glad to be informed that there are eight pages dealing with the proper way of cooking truffles.

The two small books by H. de la Blanchère—one on the enemies of forest trees, with 162 engravings of insects and larvæ, the other on the enemies of orchards and vines similarly illustrated, form part of a large series now well known and highly appreciated in France. We have already noticed some of them, and these are in no way inferior to the former ones.

"Plants used for Food," written by A. Vogl, of Prague, translated into French by Ad. Focillon, is a practical guide for detecting the adulteration of flour, coffee, chocolate, tea, and the like.

"The Blowpipe," by E. Jannettaz, is extremely well arranged, and is a thoroughly practical guide for engineers, mineralogists, &c.; the information is accurate and condensed, and M. Jannettaz's name is a guarantee of its scientific value.

OUR BOOK SHELF

The Fifth Continent, with the Adjacent Islands; being an Account of Australia, Tasmania, and New Guinea, with Statistical Information up to the Latest Date. By C. H. Eden. With Map. (London: Society for Promoting Christian Knowledge; no date.)

THIS volume contains much information on the Australian colonies, but it is somewhat desultory and incomplete. It is not a children's book, and it will not satisfy those who are in quest of full information on the subject. It affords some idea of the history, people, and products of Australia and New Guinea, but it would be better to cut out much of what is said about the history and the people and give more space to well-digested information about the resources of the countries.

Notes by a Field Naturalist in the Western Tropics. By Henry H. Higgins, M.A. (Liverpool: Edward Howell, 1877.)

THIS is a readable record of observations made during a yacht voyage to the West Indies by Mr. Higgins, who is president of the Liverpool Naturalists' Field Club. Mr. Higgins went over well-trodden ground, and therefore we need not look for any novelties in this little volume, although much of it is interesting. The chief purpose of the voyage, undertaken by Mr. Cholmondeley, the owner of the yacht, was to observe and collect tropical birds. Mr. Higgins collected, also, many specimens, both zoological and botanical, from sea and land, which are now being arranged. He may possibly, he states, publish an account of the biology of the voyage.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

The Radiometer and its Lessons

PROF. FOSTER's clear representation of what he conceives to be the effect of rarefaction reduces the question between us to a definite issue.

Having assumed that heat is flowing across an intervening layer of gas from a hotter surface A to a colder surface B, he